

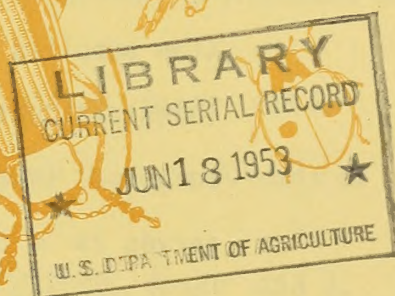
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Cooperative
**ECONOMIC INSECT
REPORT**



Issued by

**BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

DIVISION OF INSECT DETECTION AND IDENTIFICATION

SECTION OF ECONOMIC INSECT DETECTION AND REPORTING

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Bureau serves as a clearing house and does not assume responsibility for accuracy of the material.

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Section of Economic Insect Detection and Reporting
Bureau of Entomology and Plant Quarantine
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COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

EUROPEAN CORN BORER moths emerging in several states. (page 408). Almost 3 times as many overwintered borers in Boone County, Iowa as in 1952. (page 423).

ARMYWORMS causing damage to cereal and forage crops over wide area. Outbreak numbers in Tennessee, Maryland and Indiana (page 409).

CORN FLEA BEETLE infestation heaviest in years in Illinois. Also damaging corn in Indiana. (page 410).

MEXICAN BEAN BEETLE abundance in the South earlier than usual (page 416).

Known range of YELLOW-MARGINED LEAF BEETLE in Alabama extended. (page 416).

THRIPS causing damage to cotton in several states. (page 419).

BLACK HILLS BEETLE infestations very heavy in some forests of Colorado and Wyoming. (page 420).

Additional survey method for BEET LEAFHOPPER. (page 425).

Notes received too late for inclusion in the body of this issue. (pages 422,423).

WEATHER BUREAU'S 30-DAY OUTLOOK

*June - 1953

The Weather Bureau's 30-day outlook for June calls for temperatures to average below seasonal normals in the North and Middle Atlantic States, the Eastern Lake Region, and in states bordering the West Coast. Above normal temperatures are expected to prevail over most of the Great Plains from Texas northward to the Canadian Border with greatest departures in the southern half of this area. Near normal temperatures are indicated in areas not mentioned.

Precipitation is expected to be sub-normal over the central third of the nation, but in excess of normal west of the Continental Divide and in the Northeast. Elsewhere amounts not far from normal are predicted.

*This report released by Weather Bureau June 2, 1953

Weather forecast given here is based on the official 30 day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington. Price: \$4.80 a year, \$2.40 for six months.

Reports in this issue are for the week ending May 29 unless otherwise designated.

WEATHER OF THE WEEK ENDING June 3, 1953

In southern sections east of the Rocky Mountains, hot, dry weather prevailed for the second consecutive week. Daily maxima generally ranged in the middle and high 90's, though occasionally exceeding 100 degrees at scattered stations in the southeast and at many stations on several days in the western portion of the lower Great Plains. A new early season high temperature record of 97 degrees was established at Lake Charles, La., on the 28th. In many sections south of the Great Lakes and in the lower Mississippi Valley, those conditions were favorable for drying soil that has been too wet to work for several weeks. They also favored rapid crop growth and permitted field activities where the soil was dry. In contrast, however, drought conditions in southwestern Kansas, the western one-third of Oklahoma, and parts of western Texas were intensified. On two or three days during the latter part of the week, the heat wave spread far northward into the central interior sending maximum temperatures above 90 degrees in parts of South Dakota, Minnesota, Wisconsin, and Michigan. In the Great Plains average temperatures for the week ranged from 4 degrees to 8 degrees above normal in Texas, 8 degrees to 12 degrees in Kansas, diminishing to about normal near the Canadian Border. In the southern Great Lakes Region, the Ohio Valley, and Southeast weekly averages generally ranged from about 5 degrees to 6 degrees above normal.

Temperatures averaged 3 degrees to 10 degrees below normal in the Northeast where cool weather prevailed during the entire week, and 2 degrees to 5 degrees in the upper Great Lakes Region where cool weather prevailed at the beginning and end of the period. Frost was reported in northern Michigan on the 28th when Pellston recorded a minimum of 31 degrees. Frost also occurred in the Appalachians on the 28th and 29th, and some slight damage was reported from West Virginia and northern Pennsylvania. The week was unusually cool west of the Continental Divide, with temperatures about 1 degree below normal immediately west of the Divide and along the coast and 5 degrees to 10 degrees below in the interior. Crop growth was slowed by the cool weather. Freezing occurred in scattered sections of the Great Basin but no damage was reported.

Precipitation exceeding one-half inch was of the thundershower type and occurred mostly in regions near the Canadian Border and along the eastern slopes of the Rocky Mountains. Moderate to heavy rains delayed field work in Idaho and Montana and in the latter State caused some flooding in the Sun and Milk River Valleys. Heavy rains in the northern

(Continued on page 411).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS (*Acrididae*) - In crop-land areas of western KANSAS and panhandle of OKLAHOMA nymphal populations of *Melanoplus mexicanus* and *M. bivittatus* confined largely to roadsides, fence rows and wasteland margins. Populations now 20 to 35 per square yard in some areas. This condition, however, is local and spotted. (Gardner May 16).

MORMON CRICKET (*Anabrus simplex*) - COLORADO - Weather continued to retard development during week of May 16 in Zenobia Basin areas, Moffat County. Most advanced crickets in third instar. Doubtful if hatch is complete in higher country. WYOMING - Reported in a 1,000 acre area in Hot Springs County. Plans being completed to include this infestation in 1953 control operations in the State. Other areas scheduled for control are Sunlight Basin, Park County, 1500 acres; and Jackson Hole Wildlife Refuge, Teton County, 1500 acres. (Gardner May 16). IDAHO - Third to fifth instars in Carey-Picabo area. Total of 9,580 acres has been baited. Baiting was done under adverse weather conditions, but control estimated at 95 to 100 percent. (Fah May 23).

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - MASSACHUSETTS - Moths emerging, very little winter mortality. (Crop Pest Cont. Mess.). MARYLAND - Moth emergence practically complete on Eastern Shore. Peak emergence May 22 in Frederick County. Practically no corn up during peak of egg laying on Eastern Shore. Four to 40 egg masses per 100 plants on corn 8 to 14 inches tall in Frederick County. Very little corn large enough for optimum larval establishment. (Langford). ILLINOIS - Pupation of overwintering larvae nearly complete from St. Louis south, about 50 percent complete in central area, just starting in Ogle and DeKalb Counties. Some moths are out from Mattoon south, and eggs on early corn south of Carbondale. With pupation of overwintering borers a little later than usual and corn slightly ahead of last year, an increase in population by fall is probable. (Decker). TENNESSEE - Adults observed across the State; some egg laying on corn. (Mullett). SOUTH DAKOTA - Survival 80 percent. One pupa found May 23 out of 260 specimens examined. (Spawn and Lofgren).

BILLBUGS (*Calendra* spp.) - NORTH CAROLINA - Coastal counties show damage to corn; severe in localized areas. (Jones). MISSOURI - Mixed species causing slight injury to bottom-land corn in northern area. Seven to 10 percent of plants show injury in most fields. (Kyd).

ARMYWORM (Pseudaletia unipuncta) - DELAWARE - Light to heavy infestations in several areas. (Late News). MARYLAND - Heaviest outbreak since 1950. Damage to new pasture crops in grain often severe. Spraying being done on grains and corn on Eastern Shore. (Bissell). PENNSYLVANIA - Injuring corn in Blair, Westmoreland and Greene Counties. Counts in heavy grass in Indiana County showed 147 per square foot; 80 percent very small. Seven to 8 per square foot in clover-hay fields. With favorable conditions, a severe outbreak can occur in southeastern area. (Udine). INDIANA - Major pest of the week ending May 29. Have destroyed fields of young corn and migrated to wheat causing much damage. (Davis). ILLINOIS - Infestations varying from 0-20 or more half-grown larvae per square foot in grain. Mixed infestations of armyworm and CUTWORMS in legume-grass mixtures carrying populations of 10 to 30 per square foot. Migrations started in some cases. Rather general widespread migrations expected in southern area and in central and northern areas during second and third week of June. (Decker). TENNESSEE - Infestation continues in about 45 counties although peak passed. Five-hundred thousand acres seriously infested. Between 40 and 50 planes at work on control. East Tennessee has heavy infestation. This is the first such severe outbreak in this area in many years. (Mullett). OHIO - Serious damage on bluegrass pasture and young corn in 3 southeastern counties. Larvae 1/4 to 1/2 grown. (Parks). MISSOURI - Light infestation scattered over State. Heavy damage to barley in local southern areas. Also wheat in some cases. Heavy concentrations expected to be scattered in northern area. (Kyd). TEXAS - Being controlled by parasites in Denton area. (Chada).

CHINCH BUG (Blissus leucopterus) - NORTH CAROLINA - Moving from oats to corn in Martin and Greene Counties. (Kulash). ILLINOIS - Egg laying began in Champaign County third week in May, no hatching to May 29. Many adults leaving rank wheat for oats and corn. Three to 5 bugs per hill of corn common. (Decker).

FALL ARMYWORM (Laphygma frugiperda) - MISSISSIPPI - Becoming destructive to corn in Gulfport District. (McGehee).

SEED-CORN MAGGOT (Hylemya cilicrura) - INDIANA - Damage very severe to corn in southern two-thirds of State. Some fields, especially early-planted corn, nearly destroyed. Also serious to other crops where heavy vegetation plowed under. (Davis).

SOD WEBWORMS (*Crambinae*) - PENNSYLVANIA - Moderate infestations on turf in Jefferson and Clarion Counties. (Adams). ILLINOIS - Scattered infestation in corn following grass sod at widely scattered points in central areas. (Decker). MISSOURI - About 30 to 35 percent reduction in corn stands in Miller County. Lighter in Pettis, Ray and Caldwell Counties. (Kyd).

CORN FLEA BEETLE (*Chaetocnema pulicaria*) - ILLINOIS - More abundant than any time in last 20 years. Many early corn plantings seriously damaged and several thousand acres being treated. Infestation more intense in central counties, but indications that infestation may be general further north later. (Decker). INDIANA - Very destructive to corn 2 to 6 inches high in several localities, especially in northern half of State. Damaged young corn in south central area. (Davis). MISSOURI - Generally light in northern area. One beetle per stalk in some bottom-land corn. (Kyd).

WIREWORMS (*Elateridae*) - NORTH CAROLINA - Damage to corn in Hyde and Washington Counties. Sand wireworm (*Horistonotus uhlerii*) found on corn in Robeson and Bladen Counties. Believed to be extension of known range in State. (Jones). INDIANA - Damaged a number of fields of corn in central area. (Davis).

PEA APHID (*Macrosiphum pisi*) - Disease has killed the heavy infestations in OHIO (Parks) and in northern half of INDIANA (Davis). MISSOURI - Continues heavy in many clover fields in northern area. (Kyd). TEXAS - Severe in isolated spots on vetch in Rockwall County. (Iron). IDAHO - Populations still high in most alfalfa plantings in southwestern area. Counts estimated to exceed 100 per sweep. Many predators in fields but aphid populations still building. (Walz May 23). In south-central area 2.6 to 30.6 aphids per sweep in four alfalfa fields examined, 0.5 to 1 per sweep in 2 pea fields. (Douglass May 23).

CLOVER LEAF WEEVIL (*Hypera punctata*) - PENNSYLVANIA - Damage continues in western area. (Adams and Udine).

SPITTLEBUGS (*Cercopidae*) - WEST VIRGINIA - Heavy in all areas observed. (Craig). PENNSYLVANIA - Meadow spittlebug adults in legume-hay fields in Lancaster County. (Pepper). INDIANA - Abundant. Most growers spraying in advance of damage. (Davis).

BEAN LEAF BEETLE (*Cerotoma trifurcata*) - ILLINOIS - Adults seriously damaging seedling soybeans in many fields. (Decker).

ALFALFA WEEVIL (Hypera postica) - DELAWARE - Damage to first-growth most severe at Leipsic. (Late News). MARYLAND - Injury most severe in parts of fields with weed competition or disease. Known range extended into southeastern Frederick County. (Bissell).

COLORADO - Larvae building up on Western Slope. Fields not treated early damaged. (Daniels). IDAHO - Larvae damaging alfalfa in southwestern area where early control measures not applied against adults. (Walz May 23). Population ranged from 1 to 5.2 per ten sweeps in 4 fields examined in south central area. (Douglass May 23).

SAWFLIES ON PASTURES - MISSOURI - Unidentified species common in bluegrass and improved pastures over north half of State. Average about 4 per sweep. (Kyd).

CLOVER ROOT BORER (Hylastinus obscurus) - WASHINGTON - Severe injury to 2 and 3 year clover in pastures in Thurston, Skagit, Clark, Island, Cowlitz and Lewis Counties. (Prescott and Brannon).

WHEAT STEM MAGGOT (Meromyza americana) - MISSOURI - Injury to bluegrass in northern area. Damage spotted but heavy in small areas. (Kyd).

ENGLISH GRAIN APHID (Macrosiphum granarium) - ILLINOIS - Small to threatening numbers in many oat and wheat fields and populations increasing. (Decker). WASHINGTON - Heavy infestation in several wheat fields in Okanogan County. (Brannon).

PALE WESTERN CUTWORM (Agrotis orthogonia) - UTAH - Fifty acres of dryland winter wheat killed in Utah County. Some damage also in Salt Lake County. (Knowlton).

(Weather Continued)

Great Plains on the 28th and 29th caused the Red, extreme upper Mississippi, and lower Minnesota Rivers to overflow, resulting in considerable local property damage. A 3-inch rain at Bayfield, Wis. on the 30th caused \$100,000 damage.

Numerous severe local storms occurred in northern areas west of the Great Lakes. A small twister did minor damage at Shoshone, Idaho. A tornado at Newcastle, Wyo. on the 29th, was reported to have caused considerable crop damage. On the 29th and 30th tornadoes caused considerable property damage in the Dakotas. (Summary Supplied by U. S. Weather Bureau).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW JERSEY - Over 50 percent of first-brood moths emerged in central and southern areas. (Farley). PENNSYLVANIA - First entrance into apples May 26 in Franklin County. (Pepper). WEST VIRGINIA - About 4 percent of overwintering brood had emerged in Kearneysville area by May 19. (Hamstead). OHIO - About 50 percent emerged though weather causing delay at present. (Cutright). INDIANA - Adult catches especially heavy May 20, 21 in Vincennes area. Conditions ideal for activity. (Hamilton). ILLINOIS - A "bunched" hatch forecast in Carbondale area. (Chandler). First hatching expected around June 5 in central areas of ILLINOIS and INDIANA. (Spray Ser. Rept.). MISSOURI - Heavy emergence underway, particularly in southeast area. (Wkly. Rept. Fr. Grs.). COLORADO - Peaks in flights in Mesa and Delta Counties reached week ending May 29. (Newton).

PLUM CURCULIO (Conotrachelus nenuphar) - VERMONT - Observed in a number of Lake Champlain Valley apple orchards. Could be a problem year. (Calahan). MASSACHUSETTS - Peak activity expected first week of June. (Crop Pest Cont. Mess.). NEW JERSEY - Oviposition practically complete in central and southern areas. (Farley). GEORGIA - Approximately 11 percent infestation in peach drops in Fort Valley area, which is comparatively light. Late peaches expected to be subjected to second-generation attack this year. (Snapp). INDIANA - Activity in Lawrence and Orange Counties warrants continued spray protection. (Marshall). MICHIGAN - Emerged as far north as Oceana County. Feeding in Van Buren County. (Hutson). MISSOURI - Light activity, though peak of adult activity past. (Wkly. Rept. Fr. Grs.).

EUROPEAN RED MITE (Metatetranychus ulmi) - VERMONT - Very heavy populations in many orchards. (Calahan). OHIO - First-generation egg laying complete. Some hatching occurring. (Cutright). INDIANA - Activity increasing in Vincennes area. (Hamilton). MICHIGAN - Infestations extremely spotty. A few scattered orchards have as many as 40 mites per leaf, but generally populations much lower. (Hutson).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - INDIANA - Flight of spring-brood adults about complete in Vincennes area. (Hamilton). NEW JERSEY - Very little fresh twig injury during week in central and southern peach orchards. (Farley).

RED BANDED LEAF ROLLER (Argyrotaenia velutinana) - VERMONT - Small number of egg masses observed in some orchards in Lake Champlain Valley. (Calahan). INDIANA - First-brood larvae pupation approximately 73 percent May 25 in Vincennes area. (Hamilton). MICHIGAN - Hatching continues in many orchards. Most in first instars, though second instars in scattered areas. (Hutson).

APHIDS - OHIO - First colonies of apple aphid (Aphis pomi) being established by migrants on new growth. Rosy apple aphid (Anuraphis roseus) numerous in some untreated orchards. (Cutright). NEW JERSEY - Apple aphid appearing in central and southern orchards. (Farley).

APPLE FLEA WEEVIL (Rhynchaenus pallicornis) - OHIO - Damage in several southwestern orchards. (Cutright).

BLACK CHERRY APHID (Myzus cerasi) - UTAH - Population above normal at Bountiful and Kaysville on sweet cherry. (Kaloostian and Knowlton).

PEAR-SLUG (Caliroa cerasi) - WASHINGTON - First adults of season seen on pear foliage in Prosser area. (Frick and Bry).

PEACH TWIG BORER (Anarsia lineatella) - IDAHO - Damage in most southwestern peach orchards. Damage very pronounced in a few orchards. (Walz May 24).

GREEN PEACH APHID (Myzus persicae) - UTAH - Many peach trees in areas of Davis County badly curled. (Kaloostian and Knowlton).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - WISCONSIN - Very abundant throughout State, especially on wild cherry, unsprayed fruit trees, willows and poplar. (Chambers May 24).

PERIODICAL CICADA (Magicicada septendecim) - PENNSYLVANIA - Ovipositing cuts in Franklin County. (Pepper). MARYLAND - Ovipositing damage noted on peach branches. (Bissell May 29). KENTUCKY - First flights May 25 at Covington. (Spray Ser. Rept.). OHIO - Adults observed May 25 in Green County. (Knull). Emergence from soil commenced at Columbus May 21. (Parks). INDIANA - Began emerging May 19 in Orleans. (Marshall). Adults May 23 in Linton vicinity (Hamilton). Beginning to emerge at Lafayette May 29. (Davis). ILLINOIS - First reports in State from Paris, May 27. (Spray Ser. Rept.). NEW YORK - First appearance at Hicksville, Nassau County May 25. At Babylon May 26. (Leiby).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - NEW YORK - Injury spotty in untreated Westchester County orchards. (Androsko). Considerable injury to pear fruits in untreated orchards in Rockland County. (Clark). Found in several new areas in Orange County. (Zarachuk). Found in 14 Dutchess County Orchards for first time. Infestations from trace to light. (Sergeant).

ADDITIONAL NOTES - NEW YORK - EUROPEAN RED MITE building up in Westchester County (Androsko), and in a few Ulster County orchards (Palmer). Eggs plentiful in untreated blocks in Onondaga County. (Vuillemot). Not too numerous in Columbia County. (Buckley). Cool weather slowing PLUM CURCULIO activity in some areas but damage evident in some orchards. (Weekly News Letter). First CODLING MOTH hatch expected during week of June 15 in areas comparable to Geneva if favorable weather continues. (Glass).

TRUCK CROP INSECTS

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Populations on cultivated Lycium increasing very rapidly in Arkansas Valley and Greeley District. Averaged 65 per 100 sweeps in Arkansas Valley and 52 in Greeley District May 20. These numbers are greater than in any other year at this time since 1949. (Wallis).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - ALABAMA - Abundant throughout much of State. (Arant). NEW YORK - Some growers report considerable trouble in Nassau County, others little or none. (Campbell).

TOMATO FRUITWORM (Heliothis armigera) - MISSISSIPPI - Very destructive to tomatoes in Gulfport District. (McGehee).

LEAF-FOOTED BUG (Leptoglossus phyllopus) - GEORGIA - Damaging potatoes and beans in Union County. Moderate infestation. (Taylor).

WIREWORMS (Elateridae) - SOUTH CAROLINA - Considerable damage to potato tubers in Charleston area. (Reid).

EUROPEAN CORN BORER (Pyrausta nubilalis) - VIRGINIA - Considerable injury (about 10 percent some plantings) to Irish potatoes in Churchland area. (Brubaker, Greenwood, Hofmaster).

POTATO APHID (Macrosiphum solanifolii) - DELAWARE - Appearing on pepper and tomato. (Late News).

POTATO FLEA BEETLE (Epitrix cucumeris) - MISSOURI - Heavy in central area. Four to 15 adults per sweep. (Kyd).

TUBER FLEA BEETLE (Epitrix tuberis) - COLORADO - Small numbers collected from Lycium May 20. (Wallis).

FLEA BEETLES (Chrysomelidae) - NORTH CAROLINA - Severe damage to vegetables throughout State. (Jones). GEORGIA - Heavy infestation of Epitrix spp. on tomatoes and potatoes in Rabun and White Counties. (Sheldrake). MISSISSIPPI - Phyllotreta sp. numerous on turnips in Harrison County. (McGehee). NEW YORK - Have been abundant in Nassau County. (Campbell). Some injury in Rockland County. (Clark). Prevalent on tomatoes in Cayuga County. (O'Leary).

PEA APHID (Macrosiphum pisi) - NEW YORK - Infestation on peas in Suffolk County very light. (Leiby). WISCONSIN - Abundant in early-planted pea fields in Dane and Columbia Counties. (Chambers, May 24). COLORADO - Though abundant in eastern area, not too serious on canning peas. (Daniels). WASHINGTON - Adverse weather has held down populations greatly in Walla Walla area. (Cook).

APHIDS - NORTH CAROLINA - Damage more severe on most vegetable crops than last year. (Jones). COLORADO - Green peach aphid (Myzus persicae) populations excessive in Larimer County, May 22. Predators developing. (Daniels).

BLISTER BEETLES (Epicauta spp.) - TENNESSEE - Beginning to appear in numbers over the State. (Mullett).

CABBAGE APHID (Brevicoryne brassicae) - GEORGIA - Heavy infestation on cabbage in Union County. Killing younger plants, stunting older. (Taylor, May 20).

CROSS-STRIPED CABBAGEWORM (Evergestis rimosalis) - SOUTH CAROLINA - Heavy infestation on cabbage north of Greenville. (Hopkins).

TWO-SPOTTED SPIDER MITE (Tetranychus bimaculatus) - SOUTH CAROLINA - Heavy infestation in some snap bean plantings in Charleston area. (Reid).

THRIPS - SOUTH CAROLINA - Considerable injury to peanuts; slight injury to watermelons in Charleston area. (Reid). Infesting large acreages of snapbeans north of Greenville and Pickens. Severe on small cucumber plants in one planting. Also damaging small squash. (Hopkins).

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - NEW YORK - Appeared on Long Island May 21. (Leiby). VIRGINIA - Populations increasing slowly in Norfolk area but injury not too general. (Brubaker, Greenwood, Hofmaster). SOUTH CAROLINA - All stages infesting large acreages of snap beans north of Greenville and Pickens. Infestations also in Charleston area (Reid) and in Lake City and Georgetown areas. (Creighton). ALABAMA - Abundant throughout much of State. (Arant). MISSISSIPPI - Numerous in Harrison County. (McGehee).

LYGUS BUGS (*Lygus* spp.) - CALIFORNIA - Average of 2 per sweep in alfalfa adjoining blackeye bean fields in Riverside County and in alfalfa adjoining lima bean fields in Orange County. (Campbell).

SEED-CORN MAGGOT (*Hylemya cilicrura*) - NEW YORK - A few untreated early-planted snap beans seriously infested in Cayuga County. (O'Leary). First generation on Long Island about mature. (Huckett). NORTH CAROLINA - Severe damage to germinating beans in Ashe and Duplin Counties. Forty to 50 percent loss of crop not uncommon in localized areas. (Jones). CALIFORNIA - Caused replanting of 300 acres of blackeye beans near Chino, 25 acres near West Covina. (Campbell).

SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata howardi*) - ALABAMA - Destroying stands of young watermelons in southern area. (Arant).

BEET LEAFHOPPER (*Circulifer tenellus*) - UTAH - Population on unthinned beets between Tremonton and Richfield averages 0.10 per square foot of row with range of 0 to 0.25. Population per square foot in 1952 in this area averaged 1.73 per square foot of row, with high of 7 per square foot. Long distance migration from southern breeding area is believed ended. Approximately 15 percent of migrants had curly-top virus in 1953; 10 percent in 1952. Curly-top on early-market tomatoes at Santa Clara averages 45 percent compared to 52 percent in 1952. (Dorst).

YELLOW-MARGINED LEAF BEETLE (*Microtheca ochroloma*) - ALABAMA - Adults collected for first time in Marengo County. Found feeding on Irish potatoes, which is believed to be a new host plant record. (Arant).

RHUBARB CURCULIO (*Lixus concavus*) - MICHIGAN - Locally abundant about Keeler. (Hutson).

ASPARAGUS BEETLES (Crioceris spp.) - MICHIGAN - C. asparagi heavy only in widely separated areas due to weather. (Hutson).

ONION THRIPS (Thrips tabaci) - CALIFORNIA - Populations heavy on small onions near West Covina. (Campbell).

ONION MAGGOT (Hylemya antiqua) - MICHIGAN - Egg laying at Parma. (Hutson). IDAHO - Damage appearing in some commercial fields, but very light. (Walz).

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - NORTH CAROLINA - General on strawberries and oats in Surry County, but little damage. (Fuller). MICHIGAN - Appearing on strawberries at Alpena. (Hutson).

SPITTLEBUGS (Cercopidae) - WASHINGTON - Infesting strawberries and forage crops in Thurston County. (Prescott and Brannon).

WEEVILS ON STRAWBERRIES - MICHIGAN - Strawberry root weevil beginning to pupate at East Lansing May 24. (Hutson). WASHINGTON - Brachyrhinus ovatus and B. sulcatus larvae damaging strawberries in Thurston County. (Brannon).

STRAWBERRY ROOT APHID (Aphis forbesi) - WISCONSIN - Abundant in many strawberry plantings in Dane and Jefferson Counties. (Chambers May 24).

BUDWORMS ON TOBACCO - NORTH CAROLINA - Reported from several eastern counties. (Peele, Hux, Gally, Scott). FLORIDA - Normal abundance in Gadsden County area. (May and Guthrie).

HORNWORMS (Protoparce spp.) - NORTH CAROLINA - Tobacco hornworm adults recorded throughout eastern part of State; as far west as Montgomery County. (Hux and Scott). First brood of hornworms about as abundant as by June 10 last year. About 20 to 50 plants in Oxford area. More hornworms at Oxford than any place near coast east of Greenville. (Lawson). FLORIDA - Still generally scarce but increasing on tobacco in Gadsden County area. (May and Guthrie).

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Continue to infest tobacco plantings in northwestern section in very limited numbers. (May and Guthrie).

FLEA BEETLES ON TOBACCO - NORTH CAROLINA - Damage in most areas. (Tuckeiller and Scott).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - NORTH CAROLINA - Adults reported in fields in all cotton-growing areas. Populations seem higher than at this time in 1951 and 1952. (Jones). SOUTH CAROLINA - Survival to May 29 in cages at Florence -- 6.70, to same date in 1952 -- 5.68. Number of weevils found to May 29 in 1/5-acre trap plot during past four years is as follows: 1953-11, 1952-6, 1951-1, and 1950-860. (Fife and Jernigan). ALABAMA - Population counts show average of 689 weevils per acre in Autauga County, 440 in Elmore County, 137 in DeKalb County and 0 in Limestone County. Weighted average all counties-494. Heavy infestations in older cotton in Henry and Houston Counties. Counts as high as 3,732 per acre in Henry County. Highest count in Houston County - 1,244 per acre. Weevils not very numerous in young cotton. (Arant). TENNESSEE - Continuing to emerge; very numerous in some fields of old cotton. None found in young cotton. Fifty-three fields examined in 13 west Tennessee counties and 7 found infested at rate of 246 weevils per acre. Average number of weevils per acre all fields - 36. Infestations found in only Henderson and McNairy Counties. (Morris). MISSISSIPPI - Found in 10 of 11 fields examined in Harrison, Lowndes, Oktibbeha and Webster Counties. (Hester and McGehee). One-hundred thirty-one fields examined in 9 lower Delta counties and 30 found infested at average rate of 92 weevils per acre in infested fields. A year ago average number of weevils in infested fields in 8 lower Delta counties was 108. Average number of weevils in all fields examined -- 21 against 20 a year ago. (Dunnam et al). LOUISIANA - Survival in hibernation cages at Tallulah, May 1 to May 28, .48 percent compared to .58 percent in 1952. Fifty fields inspected in Madison Parish showed 54 percent infested. Overwintered weevils found at average rate of 82 per acre against 112 a year ago. (Gaines et al). TEXAS - Infestations continue light in southwest area. Examinations in 61 fields in 9 counties showed average infestation of 3 percent punctured squares. Infestation in 75 fields in 6 coastal bend counties averaged 2 percent punctured squares. Only limited number of fields sufficiently advanced for square inspection in upper coastal area. Twenty-six fields inspected in this area showed average of 6 percent punctured squares. One untreated field in Victoria County had infestation of 80 percent. Average of 2 percent punctured squares in 13 treated fields in 8 counties in south central area comparing with 11 percent in 27 untreated fields. Overwintered weevil found at average rate of 90 per acre in treated fields and 180 per acre in untreated fields in northern part of this area.

Overwintered weevils found at rate of 30 per acre in untreated fields in central area, and at rate of 270 per acre in Delta County, 150 in Lamar County, 75 in Hunt County, and 30 in Kaufman County in north central area. Overwintered weevils found in east Texas counties at following rates per acre: Houston 420, Shelby 225, San Augustine 120, Cherokee 90, Henderson 75, Brazos 71 and Anderson 30. (Parenchia et al).

PINK BOLLWORM (*Pectinophora gossypiella*) - TEXAS - Bloom inspection has been completed in 18 counties of the Coastal Bend area. These counties include Aransas, Nueces and Refugio on the coast and Maverick, Zavala, Zapata and Uvalde on the west and those counties between these limits. Examination of 1,965,683 blooms showed 25,727 pink bollworms or an infestation of 1.3 percent. At close of bloom inspection in 1952, which was 3 to 4 weeks later, 1,547,624 blooms had been inspected and 17,870 pink bollworms found or an infestation of 1.1 percent. (Welker).

THRIPS - SOUTH CAROLINA - Continue to increase in all Piedmont fields as legumes mature. (Cotton Letter). ALABAMA - Small to moderate numbers but not serious. (Arant). MISSISSIPPI - Of 131 fields examined in lower Delta counties, damage light in 58, medium in 17, heavy in 2. (Dunnam et al). TENNESSEE - Thirty-six of 53 west Tennessee fields showed damage: 9 heavy, 13 medium, and 14 light. Populations found in practically all young cotton. (Morris). ARIZONA - Causing injury in many fields in Greenlee, Cochise and Graham Counties, especially in Cochise where from 5 to 10 thrips per plant present in many fields. Also causing damage in many fields in Pinal County. (Roney). TEXAS - In most central, eastern, northern and northeastern areas thrips continue to be the most damaging cotton insect. Injurious infestations in 70 percent of untreated fields in 6 central counties. Twenty-five percent of treated fields show damage. (Parenchia et al). N.M. - Economic numbers in Mesilla Valley (CML).

APHIDS - SOUTH CAROLINA - Increases in populations in Cherokee and York Counties. (Cotton Letter). ALABAMA - Prevalent in Houston, Henry and Crenshaw Counties. (Ruffin). TENNESSEE - Light in west Tennessee cotton. (Morris). MISSISSIPPI - Light in a few fields in lower Delta counties. (Dunnam et al). ARIZONA - Have caused severe damage to fields in Greenlee and Cochise Counties. (Roney). TEXAS - Infestations generally light with injury in occasional fields. (Parenchia et al). NEW MEXICO - Most widespread infestation of cowpea aphid (*Aphis medicaginis*) in Mesilla Valley cotton in recent years. (Cott. Mark. Lett.).

COTTON FLEAHOPPER (Psallus seriatus) - TEXAS - Injurious infestations in some fields in southern and southwestern counties and significant increases have occurred since last week in the Upper Coastal and south central areas. (Parenchia et al).

SPIDER MITES - ARIZONA - Causing injury to cotton in some areas, particularly in Maricopa and Pinal Counties. (Roney).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ALABAMA - A few specimens collected on cotton. (Arant). MISSISSIPPI - Recorded in 9 fields in lower Delta counties. (Dunnam et al).

CUTWORMS (Phalaenidae) - SOUTH CAROLINA - Damaging seedling cotton in Horry and Marlboro Counties. (Cotton Letter).

FLEA BEETLES and GRASSHOPPERS increasing in west Tennessee cotton. (Morris).

FOREST INSECTS

BLACK HILLS BEETLE (Dendroctonus ponderosae) - Treatments of infested ponderosa pine are being carried out in epidemic concentrations within some national forests of COLORADO, WYOMING. Most serious outbreaks are in southwestern Colorado on the Uncompahgre and San Juan National Forests. Insect broods are very heavy in that area and control measures can prevent a very serious situation. (Knight).

PALES WEEVIL (Hylobius pales) - WISCONSIN - Considerable numbers of adults feeding on red pine in Sauk County. (Chambers May 24).

A PINE LEAF APHID (Pineus pinifoliae) - NORTH CAROLINA - Again appearing on red spruce on mountains above 5,000 feet. Injury to white pine may be expected during July. (Speers).

PINE NEEDLE MINER (Exoteleia pinifoliella) - NEW YORK - Severe on pitch pine in native stands in central, eastern and southern areas. Localities near Schenectady, Glens Falls, Farmingdale show severe browning. (Matthysse).

PINE SPITTLEBUG (Aphrophora parallela) - NEW YORK - Scotch pine dying near Elmira. White, red and pitch pine affected to lesser extent. (Matthysse). PENNSYLVANIA - Heavy infestation on ornamental white pine in Westmoreland County. (Udine). WISCONSIN - Reported in Sauk County. (Chambers May 24).

WOLLY ALDER APHID (Prociphilus tessellatus) - GEORGIA - Light to moderate on maple in Clarke, Elbert, Polk and Calhoun Counties. (Jordan).

NORWAY-MAPLE APHID (Periphyllus lyropictus) - IDAHO - Extremely high populations on maples throughout northern areas. Predators not abundant enough to control populations. (Manis May 23). WASHINGTON - Heavily infesting maples in Prosser area. (Johansen).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - WASHINGTON - Damage to spruce in Douglas County. (Brannon).

FALL CANKERWORM (Alsophila pometaria) - NORTH CAROLINA - Eggs began hatching April 17 in mountain areas. Though freeze killed some larvae, large areas of oak, hickory, maple and other species being defoliated throughout area. (Speers).

SPRING CANKERWORM (Paleacrita vernata) - WISCONSIN - Abundant in scattered sections; causing considerable damage in Sauk, Jefferson and St. Croix Counties. (Chambers May 24).

CANKERWORMS - NEW YORK - Both fall and spring cankerworms are causing severe defoliation of shade trees in many localities, particularly in central part of State. (Matthysse).

BLACK VINE WEEVIL (Brachyrhinus sulcatus) - CONNECTICUT - Larvae damaging roots of evergreens, mostly yews, at several nurseries in New London County. Severe at some points. (Sweigart, May 22).

A TIGER MOTH (Halisidota ingens) - COLORADO - Has occurred this spring in greater numbers than in past 18 years. Webs common throughout State, but most common in ponderosa pine stands in Eastern Slope forests. Ten or more webs per acre common in many young stands. Many young trees completely defoliated. (Knight).

FOREST TENT CATERPILLAR (Malacosoma disstria) - COLORADO - Hatching May 22. As heavy or heavier than 1952, which was considered an epidemic year. (Thatcher).

INSECTS AFFECTING MAN AND ANIMALS

Livestock Pest Situation in Kerrville, Texas Area: Lone star tick (Amblyomma americanum) has been the most important pest during the past six weeks as cold late spring has retarded insect activity. Horn fly (Siphona irritans) populations have built up to sufficient numbers to require treatment. Practically no horse fly (Tabanidae) activity. Fleeceworms (Calliphoridae) causing more damage to sheep than at any time. (Bushland).

HORSE FLIES (Tabanidae) - MISSOURI - First of season taken in central area May 28. A few Tabanus lineola taken in Missouri River bottoms. (Kyd).

HOUSE FLY (Musca domestica) - NORTH CAROLINA - Apparently greater numbers for time of year than during recent years. (Jones and Smith).

GENERAL FEEDERS

MAY BEETLES (Phyllophaga spp.) - INDIANA - Adult flights extremely heavy south of Vincennes during week of May 20. (Hamilton).

JAPANESE BEETLE (Popillia japonica) - NORTH CAROLINA - First adult of season reported May 21 from Beaufort County. Larvae, apparently this species, damaging corn and other crops in Washington County. (Kulash). VIRGINIA - First adult of season in Norfolk area May 29. (Brubaker, Greenwood, Hofmaster).

MISCELLANEOUS PESTS

A HOUSE CENTIPEDE (Scutigera sp.) - OREGON - This centipede apparently being introduced into State. Specimen collected in a store in Douglas County, May 20. Specimen also collected in a store at Oregon City, Clackamas County in 1952. (Roth).

ADDITIONAL NOTES

ARIZONA - Melanoplus mexicanus, M. occidentalis and Aulocara ellioti are dominant species of grasshoppers in heavy infestation of approximately 18-20 sections of rangeland in Sulphur Springs Valley. (Nerney and Brantlinger).

IOWA - EUROPEAN CORN BORER pupation varied from 41.7 percent in Boone County to only 8 percent in Lyon County, May 28. A detailed survey of 44 fields in Boone County, using 2 samples of 1/1000 acre each and in which every bit of debris was examined, disclosed 1120 borers per acre as compared to 390 borers per acre under comparable conditions in same county in 1952. No moth emergence to May 30. Heavy lady beetle population clearing up PEA APHID situation in red clover. Some CUTWORMS in localized areas in Shelby, Plymouth, Buena Vista and Grundy County, but no evidence of outbreak. SOD WEBWORMS damaging in Grundy and Wright County and in scattered fields in southern area. LESSER CLOVER LEAF WEEVIL causing extensive damage in west central area (Harris).

NEBRASKA - Small populations of POTATO PSYLLID found on cultivated Lycium and potato sprouts in cuil pikes in North Platte Valley. (Wallis). PEA APHID serious in many eastern area red clover fields. (Hill). SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) has been very abundant this spring. Large populations have been observed in oats in most eastern counties. SEED-CORN MAGGOT and SEED-CORN BEETLE (Agonoderus lecontei) damaging corn in few eastern fields. (Roselle).

Recent Important Interceptions at Ports of Entry

Many living fruit fly larvae have been intercepted recently at various ports. Among them were: the Mediterranean fruit fly, Ceratitis capitata, taken in coffee berries from Hawaii at San Pedro, Calif., in grapefruit from Egypt at Philadelphia, Pa., in lemon from Italy at New York, N. Y., in oranges from Spain and Malta at New York, N. Y., and in oranges from Morocco at Philadelphia, Pa. The melon fly, Dacus cucurbitae, was intercepted in squash from Hawaii at San Pedro; the olive fruit fly, Dacus oleae, in olives from Italy at Boston, Mass., and New York, N. Y. The Mexican fruit fly, Anastrepha ludens, was found in oranges from Mexico at Brownsville, El Paso, Galveston, Hidalgo, Laredo, and San Antonio, Texas and New Orleans, La.; the West Indian fruit fly, Anastrepha mombinpraeoptans in mombin from Salvador at San Pedro, Calif., in mango from Mexico at Hidalgo, Tex. and also in mango from Jamaica at Mobile, Ala. and New York, N. Y. Anastrepha serpentina was taken in orange from Brazil at New York, N. Y. and in sapote from Guatemala at New Orleans, La.; Anastrepha striata in guava from Panama at New Orleans, La. and a species of Tephritidae (doubtfully Ceratitis capitata) was intercepted in peppers from South Africa at Philadelphia, Pa. Tephritid larvae (possibly Dacus passiflora) were found in papaya from Fiji at Honolulu, T. H.

ADDITIONAL FOREST INSECT NOTES

GYPSY MOTH (Porthetria dispar) - CONNECTICUT - About 90 percent of the eggs hatched this year, much higher than normal. There was no larval mortality caused by cold weather. Consequently the damage in heavily infested woodlands is expected to be heavy. In winter scouting for infestation, about 24,000 acres of woodland were found heavily infested, with defoliation expected. Owners of woodland are expected to spray more than 7,500 acres this year to prevent defoliation. (Cooke).

SURVEY METHODS

BEET LEAFHOPPER SURVEY USING A STANDARD SWEEP NET

While a sweep net is not considered as accurate as some other methods of survey for beet leafhopper, it is considered faster and it is believed its use will permit a practical estimate of leafhopper populations in a given area.

In using a sweep net, similar in form and size to a standard butterfly collecting net, three important factors must be considered: (1) weather, (2) condition of the host plant, and (3) type of host plant.

With respect to the weather, leafhoppers are not particularly active in temperatures below sixty degrees, lower temperatures forcing them close to the ground where they would be difficult to pick up with the net. Wind also will cause leafhoppers to remain well within the protection of the host plant. In either case it would be difficult to pick up a true representative population with a net and collecting should be avoided under such conditions.

With respect to the condition of the host, the latter may on occasion be quite dry in which case concentrations are forced onto the greener plants which should then be made the object of sweeping.

The manner of sweeping depends on the type of host plant involved. In the case of mature Russian-thistle and perennials, as normally encountered in the fall, survey is based on the number of hoppers recovered in a single sharp ninety degree sweep of the net. On the smaller winter annuals, three foot sweeps of the net made rapidly back and forth as close to the ground as possible, usually in multiples of ten, twenty-five or fifty sweeps, is followed. The number of leafhoppers thus recorded is based on the average number per sweep in relation to the number of sweeps made.

In general practice, survey is accomplished by sweeping at one-quarter to one-half mile stops throughout favorable-looking areas. Excepting where a single sweep is used on mature thistle and large perennials the usual practice is to take ten sweeps. However, if the population of leafhoppers is exceedingly low, as many as fifty sweeps may be used for each check. Where using ten sweeps, it is customary to make at least ten such unit checks at each location.

Generally speaking an average of five leafhoppers per ten sweeps is considered the minimum economic population meriting treatment. However, under certain conditions an average of two or three leafhoppers per ten sweeps over a large area can produce damaging numbers.

During the spring, survey is restricted to warm knolls having a southern exposure with sparse growth favorable to development of the spring generation. Sweeping in such areas in addition to determining the need for treatment is later made to check the time and extent of the spring flight back into the agricultural areas based on the number of female leafhoppers in such areas at the time of checking. Such survey is usually made by using the ten-sweep unit, sweeping as close to the ground as possible. (H. Green, California Dept. of Agri.).

